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09/402,796	12/22/1999	CHRISTINE DUPUIS	05725.0481	6460

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EXAMINER

WANG, SHENGJUN

ART UNIT	PAPER NUMBER
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1617

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**MAILED**  
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**GROUP 1600**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/402,796  
Filing Date: December 22, 1999  
Appellant(s): DUPUIS, CHRISTINE

Deborah M. Sharfman  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed October 7, 2004.

**(1) *Real Party in Interest***

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A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 16-37 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

US Patent 6,080,392	Dupuis et al.	June 27, 2000
US Patent 4,155,892	Emmons et al.	May 22, 1979
US Patent 6,284,821	Hüglin et al.	September 4, 2001
US Patent 5,385,729	Prencipe et al.	January 31, 1995

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 16-23 and 25-37 are rejected under 35 U.S.C. 103(a) as being obvious over Dupuis et al. in view Emmons et al. and in view of Hüglin et al.
2. Claim 24 is rejected under 35 U.S.C. 103(a) as being obvious over Dupuis et al. in view Emmons et al. and in view of Huglin et al., and in further view of Prencipe et al.
3. Appellants' arguments regarding the rejections of claim 24 under 35 U.S.C 112, second paragraph are found persuasive, and the rejections are herein withdrawn.

These rejections are fully set forth in prior office action mailed in November 20, 2003, and reiterated below.

**(11) Response to Argument**

Claims 16-23, 25-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dupuis et al. (6,080,392) in view of Emmons et al. (4,155,892) and in view of Hüglin et al. (6,284,821).

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The instant invention is directed toward a composition comprising, in a cosmetically acceptable medium, a nonionic amphiphilic associative polyurethane corresponding to formula (1), and an anionic polymer comprising at least one fatty-chain monomer unit, wherein the composition is in the form of a gel. The instant invention is further directed toward a method of applying the composition to the hair and a method of thickening a composition comprising adding the polyurethane and polymer to a composition.

Dupuis et al. teach a composition in the form of an aerosol mousse based on polyurethane and anionic polymer. The polyurethanes are disclosed as containing at least one hydrophilic sequence, at least one hydrophobic sequence and at least one urethane group. Formula (IV) of the reference is the same generic formula as that of formula (I) of the instant invention. Anionic polymers containing groups derived from carboxylic, sulphonic, or phosphoric acid are disclosed. Carboxylic acids are disclosed as chosen from acrylic, crotonic, maleic, fumaric, and itaconic acids. Sulphonic acids are disclosed as chosen from vinylsulphonic and styrenesulphonic acids. Examples of some preferred anionic polymers include, homopolymers or copolymers of acrylic or methacrylic acid, copolymers of acrylic or methacrylic acid with aminoethylene monomer, copolymers derived from crotonic acid and at least one other monomer, polymers derived from maleic, fumaric or itaconic acid with vinyl esters, vinyl ethers, vinyl halides and others, polyacrylamides containing carboxylate groups, terpolymers of vinylpyrrolidone/acrylic acid/lauryl methacrylate. The polyurethane comprises 0.01-5% of the composition. The anionic polymer is taught as comprising 0.1-20% of the composition. The polyurethane is taught as being in a solution which also contains starch. Further disclosed is a method of adding the polyurethane and anionic polymer to a cosmetic composition and a method of treating hair with the

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composition. See Col. 1, line 52-Col. 3, line 15; Col. 4, line 56-Col. 8, line 25. The reference lacks a specific teaching of R having 1 to 6 carbon atoms and gel forms.

Emmons et al. teach polyurethane thickeners for aqueous compositions, wherein the polyurethanes contain at least three hydrophobic groups interconnected by hydrophilic polyether groups. The polyurethane thickeners are disclosed for use in cosmetic compositions. The end-capping carbon chains of the polyurethane are disclosed as comprising from 4-20 carbon atoms, and that the length of the hydrocarbon chain can be altered to obtain a preferred thickness. See Col. 7, line 4-line 51; Col. 22, line 45-end.

Hüglin et al. teach mousses and gels as interchangeable cosmetic formulations for hair styling products. See Col. 32, lines 34-45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach R or R1 of formula (IV) of Dupuis et al. as an alkyl group having 1 to 6 carbon atoms because a) Dupuis et al. teach R and R1 as a hydrophobic radical, preferably containing 8 to 18 carbon atoms; b) and Emmons et al. teach polyether-polyurethane compounds, such as those taught by Dupuis et al., wherein R and R1 is a hydrophobic group, and exemplify compounds, wherein R and R1 contain from 4-20 carbon atoms; thus, since one would expect a polyether-polyurethane compound having 4-8 carbon atoms to have similar thickening properties in cosmetics, and since Dupuis et al. and Emmons et al. teach that R and R1 can be any hydrophobic radical, it would be within the skill of one in the art to teach R or R1 of formula (IV) of Dupuis et al. as having 1-6 carbon atoms; furthermore, one skilled in the art would be motivated to alter the length of the hydrocarbon chain because of the expectation of achieving a preferred composition thickness.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the composition of Dupuis in the form of a gel, as taught by Huglin et al. a) because Hüglin et al. teach mousses and gels as interchangeable cosmetic hair-styling forms; and b) because of the expectation of achieving a composition that can be uniformly spread through the hair.

Regarding claim 20, it is respectfully pointed out that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thope, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

Claim 24 is rejected under 35 U.S.C.103 (a) as being unpatentable over Dupuis in view of Emmons and in view of Hüglin et al. as applied to claims 16-23, 25-37 above, and further in view of Prencipe et al. (5,385,729).

Dupuis, Emmons, and Hüglin are applied as discussed above. The reference lacks styrene phosphonic acids of vinyl phosphonic acids.

Prencipe et al. teach a personal care composition in the form of a hair or skin-treating gel. Styrene phosphonic acids and vinyl phosphonic acid units are disclosed as comprising a cross-linking polymeric thickening agent. See Col. 14, line 65-Col. 16, line 45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to teach the phosphoric acid units of the anionic polymers of Dupuis as styrene

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phosphonic acids or vinyl phosphonic acids, as taught by Prencipe et al., because a) Dupuis and Prencipe et al. are both directed to cosmetic hair care compositions and both teach anionic polymers comprising fatty acid chains comprising phosphonic acid units; b) Prencipe et al. teach their anionic polymers as imparting viscoelasticity to hair care compositions.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the teaching, suggestion and motivation are found in the cited references and in the knowledge generally available to one of ordinary skill in the art. Particularly, the difference between the claimed invention herein and those disclosed by Dupuis are: a C6 alkyl substituent vs. a C8 substituent in an otherwise identical polymer, wherein the polymer has other hydrophobic groups, and molecular weight up to 100,000 (see formula I in the claims), i.e., a two-carbon difference in a big molecule. Considering the large molecular weight, and the presence of other alkyl groups in the molecule, one of ordinary skill in the art would not expected a significant difference between these compounds in terms of physical and chemical properties, including the applicability in cosmetic composition. In deed, Emmons et al. teaches those compounds are similarly useful in cosmetic composition for the same purpose, as thickeners. Therefore, at the time the claimed invention was made, one of ordinary skill in the art



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would have employed the polyurethane herein and enjoyed the benefit of the polyurethane known in the art, and without the need of further detailed instruction.

In response to appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant argued that Emmons et al. 1) do not teach expressly the particular polyurethane herein; 2) do not teach 1-3 carbons; and 3) do not teach different and non-overlapping end-capping groups (pages 9). Note, question under 35 U.S.C. 103 is not merely what reference expressly teaches, but what they would have suggested to one of ordinary skill in the art at the time the invention was made; all disclosures of prior art, including unpreferred embodiments, must be considered. *In re Lamberti and Konort* (CCPA), 192 USPQ 278. As to second issue, note, obvious rejections need not address every species encompassed in the rejected claims; Finally, Dupuis et al. teaches that the end-capping groups may be the same or different. Considering the cited references as a whole, the particular polyurethane would have been obvious to one of ordinary skill in the art.

Appellant's "obvious to try" arguments are deemed improper. In making such arguments, appellant hints that there are some benefits residing in the claimed invention unobvious to one of ordinary skill in the art. In reality, none of such benefit exists. The application of the polyurethane as thickener in cosmetic composition is old and well-known as evidenced by the cited references. No unexpected results have been established on the record showing the unobviousness of claimed invention.

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As to the difference between “gel” and “mousse,” it should be well understood in the art that “mousse” and “gel” are interchangeable, as indicated by Hüglin et al. In other words, mousse is just one particular form of “gel” in cosmetic art. Appellant asserts that “gel” and “mousse” are distinct. Instead of making factual finding of the difference between “gel” and “mousse,” appellant attacks Hüglin reference for not expressly disclosing the gel or mousse formulation. Appellant fails to rebut the examiner’s arguments made in the rejections.

As to the rejections of claim 24, the examiner respectively points out again that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, Dupuis teaches phosphonic acids as anionic polymers in his invention and that Prencipe is merely relied upon to teach specific phosphonic acids that are utilized in hair care formulations. Additionally, it is respectfully pointed out that Prencipe and Dupuis are both directed to hair styling formulations. Thus, one of skill in the art would be motivated to employ the phosphonic acids of Dupuis as the specific phosphonic acids taught by Prencipe because of the expectation of achieving additional thickening properties and viscoelasticity of the hair care product. Applicant argues, “the fact that Prencipe may teach a composition in gel form is not enough motivation for one to seek out, let alone apply its teachings, when the chemistry of the composition is different from that of the claimed invention”. This argument is not persuasive. The Examiner respectfully points out that the Examiner has not even relied upon the gel form of Prencipe as motivation to combine the references.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
Shengjun Wang  
Primary Examiner  
Art Unit 1617


SHENGJUN WANG  
PRIMARY EXAMINER

February 7, 2005

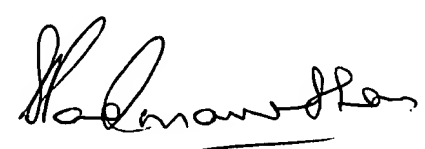
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